

### REMARKS

Prior to entry of this amendment, claims 1-31 are currently pending in the subject application. Claims 9-15 and 22-28 are withdrawn from consideration. Claims 1 and 17 are independent. By the instant amendment, claims 1 and 17 are amended to solely clarify language therein. No new matter is added.

#### A. Introduction

In the outstanding Office action:

- (a) claims 1-8, 16-21, and 29-31 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement;
- (b) claims 1-8, 16-21, and 29-31 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter;
- (c) claims 1-5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,810,460 to Van Nie (“the Van Nie reference”) in view of U.S. Patent No. 4,580,574 to Gavish (“the Gavish reference”);
- (d) claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the Van Nie reference in view of the Gavish reference and in further view of U.S. Patent No. 5,427,093 to Ogawa et al. (“the Ogawa et al. reference”);
- (e) claims 17-20 and 29-31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Van Nie reference in view of the Gavish reference and in further view of U.S. Patent No. 4,883,353 to Hausman et al. (“the Hausman et al. reference”); and
- (f) claims 7, 8, 16, and 21 were indicated as allowable claims if they are rewritten to overcome the rejections under 35 U.S.C. § 112, first paragraph, and to include all the limitations of the base claim and any intervening claims.

B. Rejection of Claims 1-8, 16-21, and 29-31 under 35 U.S.C. § 112, First Paragraph

In the outstanding Office action, claims 1-8, 16-21, and 29-31 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. By the instant amendment, claims 1 and 17 have been amended to clarify allegedly unsupported language. In view of the amendment to claims 1 and 17, it is believed that the rejection under 35 U.S.C. § 112, first paragraph, has been overcome. Accordingly, applicants respectfully request favorable reconsideration and withdrawal of the rejection of claims 1-8, 16-21, and 29-31 under 35 U.S.C. § 112, first paragraph.

C. Rejections of Claims 1-8, 16-21 and 29-31 under 35 U.S.C. § 101

In the outstanding Office action, claims 1-8, 16-21, and 29-31 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. By the instant amendment, claims 1 and 17 have been amended to include language suggested in the Office action of October 16, 2007, in order to overcome the rejection under 35 U.S.C. § 101. In view of the amendments to claims 1 and 17, applicants respectfully request withdrawal of the rejection of claims 1-8, 16-21, and 29-31 under 35 U.S.C. § 101.

D. Asserted Obviousness Rejection of Claims 1-5

In the outstanding Office action, claims 1-5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Van Nie reference in view of the Gavish reference. Applicants respectfully traverse this obviousness rejection.

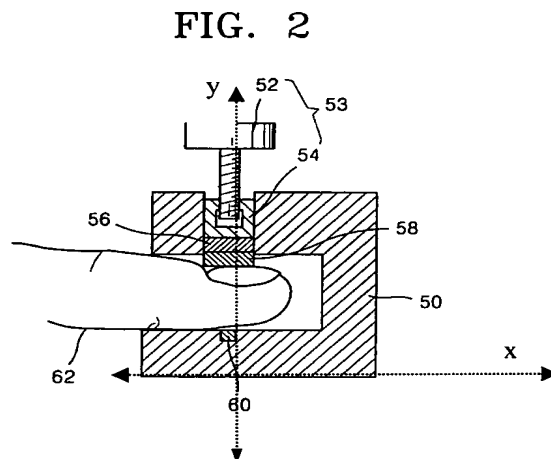
No *Prima Facie* Case of Obviousness is Established

It is well settled law that in order to establish a *prima facie* case of obviousness of an invention, a “prior art reference (or references when combined) must teach or suggest all the claim limitations.” *MPEP*, 706.02(j). Independent claim 1 recites, *inter alia*,

a body having a space for receiving the object and in which the light source unit and the photodetector unit are positioned in a same **vertical axis with respect to a surface supporting the body**; and  
a pressure application unit ...

wherein the pressure application unit is ***always*** on a **vertical line passing through the light source unit and the photodetector unit**.

In other words, the probe, as recited in claim 1, includes, *inter alia*, a pressure application unit that is ***always*** on a vertical line with respect to a surface supporting the body, while the vertical line passes through both the light source unit and the photodetector. Applicants respectfully note that a vertical axis is defined in claim 1, and is supported by paragraph [0035] as amended in the Reply to Office action of April 12, 2007<sup>1</sup>. In this respect, FIG. 2 of the application is reproduced below (annotations added).



As clearly seen in FIG. 2 above, the pressure application unit 53 is on a vertical line *y* with respect to a surface supporting the body 50, i.e., horizontal line *x*, and the vertical line *y* passes through the light source unit 58 and through the photodetector 60. Applicants respectfully submit that neither of the cited prior art references, whether alone or in

<sup>1</sup> It is indicated on page 2 of the Office action of October 16, 2007 that applicants' submission filed on September 12, 2007 was entered.

combination, teaches or suggests a pressure application unit that is *always* on a vertical line passing through a light source unit and a photodetector.

More specifically, as admitted on page 4 of the Office action of October 16, 2007, the Van Nie reference fails to teach a pressure application unit on a vertical line passing through the source and detector. The Gavish reference teaches using an ultrasonic device on a soft tissue and uses an earlobe as an example. *The Gavish reference*, col. 5, lines 26-28 and 46-48. Operating the ultrasonic device of Gavish on an earlobe would require orienting the ultrasonic device according to FIG. 1 of Gavish, so the screw 5 is positioned along a direction parallel to a surface supporting the mount 4. Since the apparatus of Gavish includes a pressure application unit in parallel to the supporting surface, i.e., the orientation of FIG. 1, the Gavish reference fails to teach a probe having a pressure application unit that is *always* on a vertical line with respect to a surface supporting the body. Accordingly, applicants respectfully reiterate that the Van Nie reference and the Gavish reference, whether alone or in combination, fail to teach each and every element of claim 1. Therefore, at least in this respect, no *prima facie* case of obviousness is established with respect to claim 1. Claims 2-5 are dependent on claim 1, and therefore, are allowable for at least the same reason as claim 1.

#### Lack of Motivation to Combine

Additionally, applicants respectfully submit that there is no motivation to combine the Van Nie and Gavish references. In the outstanding Office action, with respect to independent claim 1, the Van Nie reference is indicated as lacking a disclosure of a pressure application unit on a vertical line passing through the source and detector. *Office Action of October 16, 2007, at page 4*. The Gavish reference is then relied on as teaching the above-mentioned missing element from the Van Nie reference, and asserted as a reference that would have been obvious to combine with the Van Nie reference by a person skilled in the art because “it is merely the substitution of one known pressurization means for another.” *Id.* Applicants respectfully disagree.

It is well-settled law that for a claimed invention to be rejected on grounds of obviousness, “some objective teaching in the prior art or ... knowledge generally available to one of ordinary skill in the art would [suggest to an] individual *to combine the relevant teachings* of the references.” *Tec Air Inc. v. Denso Manufacturing Michigan Inc.*, 52 USPQ2d 1294, 1298 (Fed. Cir. 1999) (*emphasis added*). There is no suggestion to combine, however, if the proposed modification of the prior art would change the principle of operation of the prior art invention being modified. *MPEP*, §2143.01, paragraph V.

The primary reference cited in the Office action of October 16, 2007, i.e., the Van Nie reference, teaches use of two arms 3 connected at one end by a spring 37 and having free ends 7 at an opposite end, so pressing the free ends 7 including detectors 9 may facilitate performance of measurements. *The Van Nie reference*, FIG. 1. Further, the Van Nie reference specifically teaches a preferred geometrical design of the free ends 7 and inclusion of flexible members therein, so at least one of the end members 7 can *tilt* to planes *perpendicular* to a plane of its respective arm 3. *The Van Nie reference*, col. 5, lines 13-34. Applicants respectfully submit that incorporating a pressure application unit along a vertical line passing through the detectors 9 of the Van Nie reference in order to form the probe recited in claim 1 would require a substantial reconstruction and redesign of the end members 7 of the Van Nie apparatus. Accordingly, it is unclear why a person of ordinary skill in the art would substitute the spring of the Van Nie reference with the screw of the Gavish reference to form the probe as recited in claim 1. Therefore, applicants respectfully reiterate that a combination of the Van Nie reference with the Gavish reference is not obvious.

In view of the above, applicants respectfully submit that the Van Nie and Gavish references, whether alone or in combination, cannot be said to suggest the subject matter of the present application, much less provide a proper combination thereof to form the probe for use in photoplethysmographic measurement as recited in claim 1. Accordingly, at least for

this reason, applicants respectfully request favorable reconsideration and withdrawal of the rejection of claim 1, and claims 2-5 dependent thereon.

E. Asserted Obviousness Rejection of Claim 6

In the outstanding Office action, claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the Van Nie reference and the Gavish reference and further in view of the Ogawa et al. reference. The Ogawa et al. reference, however, fails to supply the teachings noted above as missing from the Van Nie and Gavish references, e.g., a pressure application unit that is always on a vertical line with respect to a surface supporting the body. Accordingly, applicants respectfully traverse this rejection and submit that claim 6 is allowable for at least the reasons set forth above regarding claim 1.

F. Asserted Obviousness Rejection of Claims 17-20 and 29-31

In the outstanding Office action, claims 17-20 and 29-31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Van Nie reference in view of the Gavish and the Hausman et al. references. Applicants respectfully traverse this obviousness rejection.

Independent claim 17 includes language that parallels the language of independent claim 1. The Hausman et al. reference, however, fails to supply the teachings noted above as missing from the Van Nie and Gavish references. Accordingly, applicants respectfully submit that no proper *prima facie* case of obviousness has been established with respect to claim 17 at least for the same reasons discussed above with respect to claim 1. In other words, applicants respectfully submit that neither of the cited references teaches a probe having a pressure application unit that is always on a vertical line with respect to a surface supporting the body. Further, the combination of the Van Nie reference with the Gavish reference is not obvious. Accordingly, applicants respectfully submit that claim 17, and claims 18-20 and 29-31 dependent thereon, are allowable, and therefore, request favorable reconsideration and withdrawal of the rejection thereof.

G. Allowable Subject Matter

Applicants note with appreciation the indication of allowable subject matter in claims 7, 8, 16, and 21. Applicants respectfully submit, however, that all of the claims are in condition for allowance.

H. Rejoinder of Withdrawn Claims

In the event claims 1 and 17 are found to be allowable, applicants respectfully request rejoinder of withdrawn claims 9-15 and 22-28, which depend directly or indirectly on independent claims 1 and 17.

I. Conclusion

The above remarks demonstrate the failings of the outstanding rejections, and are sufficient to overcome them. These remarks, however, are not intended to, nor need they, comprehensively address each and every reason for the patentability of the claimed subject matter over the applied prior art. Accordingly, applicants *do not* contend that the claims are patentable solely on the basis of the particular claim elements discussed above.

In view of the foregoing amendments and remarks, reconsideration of this application is earnestly solicited, and an early and favorable further action upon all the claims is hereby requested. Upon allowance, rejoinder of the withdrawn claims is respectfully requested.

If the Examiner believes that additional discussions or information might advance the prosecution of the instant application, the Examiner is invited to contact the undersigned at the telephone number listed below to expedite resolution of any outstanding issues.

Respectfully submitted,

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PETITION and  
DEPOSIT ACCOUNT CHARGE AUTHORIZATION

This document and any concurrently filed papers are believed to be timely. Should any extension of the term be required, applicant hereby petitions the Director for such extension and requests that any applicable petition fee be charged to Deposit Account No. 50-1645.

If fee payment is enclosed, this amount is believed to be correct. However, the Director is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-1645.

Any additional fee(s) necessary to effect the proper and timely filing of the accompanying-papers may also be charged to Deposit Account No. 50-1645.